



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/720,038

11/20/2003

Akihiro Kohno

CFA00037US

2541

34904

7590

10/18/2007

CANON U.S.A. INC. INTELLECTUAL PROPERTY DIVISION  
15975 ALTON PARKWAY  
IRVINE, CA 92618-3731

EXAMINER

LIEW, ALEX KOK SOON

ART UNIT

PAPER NUMBER

2624

MAIL DATE

DELIVERY MODE

10/18/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/720,038

Applicant(s)

KOHNO, AKIHIRO

Examiner

Alex Liew

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-7 and 9-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-7 and 9-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

Art Unit: 2624

The amendment filed on August 9, 2007 is entered and made of record.

### **Response to Applicant's Arguments**

On page 8, the applicant stated:

As described in Claim 1, a feature of the present invention can be explained as follows. Attribute information, namely, pan angles, tilt angles, and zoom angles are compared between a selected first image data unit and remaining image data units, before measuring similarity indices. Then, if it is determined that a pan angle, a tilt angle, and a zoom angle of one of the remaining image data units is respectively different from that of the selected first image data unit, the one of the remaining image data unit is excluded from image data units to be used for measuring a similarity index.

As the Office Action suggests, the Shiiyama reference discloses a technique adapted to enable retrieval of an image, even if there is a change in the image due to a variation in photographing condition such as a photographing angle. However, the Shiiyama reference does not teach or suggest the features of the present invention described above.

The examiner agrees. However, in an updated, Burns (US pat no 5,828,769) discloses a second image data unit being determined by excluding, from a subject for measuring the similarity index, image data units having different attribute information from attribute information of the first image data in terms of pan angles, tilt angles and zoom angles of a camera being used during capturing the image data units (see figure 4a to 4c are model images stored in database, discussed in column 13, lines 53 to 67, and figure 5 shows image of the current image; the features in the current image and model images are compared to determine match; the pan, tilt and zoom information are found on column 14, lines 1 to 8).

Art Unit: 2624

One skilled in the art would include second image data units as pan, tilt and zoom information because sometimes the person being image does not look directly into the camera resulting the person in the image looking away at an angle, having addition image on a person which looks another way prevent the camera to take another image of the person, to save processing power.

The examiner will include Burns into the rejection of all the independent claims.

### **DETAILED ACTION**

#### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3 – 7 and 9 – 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiiyama (US pat no 6,400,853) in view of (US pat no 5,828,729).

With regards to claim 1, Shiiyama discloses a method for processing images comprising the steps of obtaining image data units and attribute information (see column 1 lines 61 – 67 – the label feature string or matrixes describes the feature of the image units data) thereof:

Art Unit: 2624

selecting a first image data unit from the image data units as a reference for measuring a similarity index (see figure 21A – is the image selected to be a reference image),

comparing attribute information of first image data unit with attribute information of the remaining image data units other than the first image data unit (see column 11 lines 11 – 18 - where the specified image data units are used as reference to measure similarity with the some or all the image data units with the registered image data units) to determine a second image data unit to be used for measuring the similarity index (see figure 21B) and

measuring the similarity index between the first image data unit and second image data unit (see figure 21C – the similarity values are calculated for the label matrixes).

Shiiyama does not disclose second image data units having information different pan, tilt and zoom angles from the first image data units. However, Shiiyama discusses images can be taken from plurality of angles and may cause image retrieval errors (see column 1 lines 29 – 37) and Shiiyama propose the use of image labeling to identify features of the image. This labeling may include angle where the camera is positioned to capture images of the object or scene, allowing the image to be subjected to similarity comparison to be taken at plurality of angles with the potential of being identified and obtaining results to retrieve specified image, as shown in figure 21.

Burns (US pat no 5,828,769) discloses a second image data unit being determined by excluding, from a subject for measuring the similarity index, image data units having

Art Unit: 2624

different attribute information from attribute information of the first image data in terms of pan angles, tilt angles and zoom angles of a camera being used during capturing the image data units (see figure 4a to 4c are model images stored in database, discussed in column 13, lines 53 to 67, and figure 5 shows image of the current image; the features in the current image and model images are compared to determine match; the pan, tilt and zoom information are found on column 14, lines 1 to 8).

One skilled in the art would include second image data units as pan, tilt and zoom information because sometimes the person being image does not look directly into the camera resulting the person in the image looking away at an angle, having addition image on a person which looks another way prevent the camera to take another image of the person, to save processing power.

With regards to claim 3, Shiiyama discloses a method for processing images according to claim 1, further comprising the steps of splitting each of the first image data unit and the second image data unit into a plurality of blocks (see figure 21A and B – 'a' to 'i' and '1' to '9' with each alphabet and numbers, respectively, representing a block) and measuring the similarity index between the first image data unit and the second image data unit on a block-to-block basis (see figure 21C).

With regards to claim 4, Shiiyama discloses a method for processing images according to claim 1, further comprising the steps of specifying a region for measuring the similarity index in the first image data unit (see figure 21A and B – each row in each

Art Unit: 2624

matrix is an specified region) and measuring the similarity index between the specified region in the first image unit and the corresponding region in the second image data unit (see figure 21C).

With regards to claim 5, Shiiyama discloses a method for processing images according to claim 4, further comprising the steps of splitting each of the first image data unit and the second image data unit into a plurality of blocks (see figure 21A and B the regions in row are further divided into blocks) and specifying at least one block to specify the region in the first image data unit (figure 21A is the first unit data).

With regards to claims 6, 7 and 13, see the rationale and rejection for claim 1.

With regards to claim 9, see the rationale and rejection for claim 3.

With regards to claim 10, see the rationale and rejection for claim 4.

With regards to claim 11, see the rationale and rejection for claim 5.

With regards to claim 12, see the rationale and rejection for claims 1 and 5.

Art Unit: 2624

With regards to claim 14, the algorithms discussed by Shiiyama are implemented into a computer where it requires programs stored in a storage medium to perform such algorithms.

### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alex Liew whose telephone number is (571)272-8623. The examiner can normally be reached on 9:30AM - 7:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on (571) 272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Alex Liew



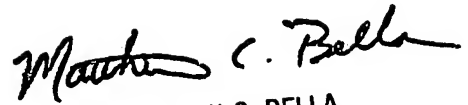
Application/Control Number: 10/720,038

Page 8

Art Unit: 2624

AU2624

10/8/07

A handwritten signature in black ink, reading "Matthew C. Bella". The signature is written in a cursive style with a large, stylized "M" and a long, sweeping underline.

MATTHEW C. BELLA  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600